REMARKS

The Examiner rejected claims 1-26 under 35 U.S.C.102(e) as being anticipated by Herrara (U.S. Patent Number 6,208,350). Applicant respectfully traverses the Examiner's rejection. In particular, Herrara fails to teach or suggest blending performed using multiple passes in a 4:2:0 format, as claimed in independent claims 1, 14, 17, 21, 22 and 23 and the claims which depend therefrom.

As noted on page 15, lines 10-14, of the specification:

> "According to an embodiment, alpha-blending is performed at render time using multiple passes preferably in a planar 4:2:0 format to simplify circuitry and reduce costs. By using multiple passes to blend video data provided in a planar format, the memory bandwidth can be more efficiently used because data can be more efficiently retrieved from memory in large chunks from contiguous memory locations, rather than switching between three different data streams/locations."

Furthermore, as noted on page 17, line 11 to page 18, line 18 of the specification:

> "According to an embodiment, in a first pass 435, each of the Y values of a frame (or picture, etc.) are alpha-blended and written to a new Y surface 432 of a new (blended) frame 430. This may be performed in a streaming fashion. This may be performed as follows. A Y value is output from the Y surface 412 of video frame 410 and is then input to alpha-blend unit 445. An 8-bit value (including a 4-bit index and a 4-bit alpha value) of the subpicture data array 420 (from the subpicture data stream) corresponding to the same pixel is output for processing. The index is input to the subpicture palette 157 and the alpha value is input to the alpha blend unit 445. Because the Y values are being processed on this first pass 435, the subpicture palette 157 outputs the 8-bit palette Y value 510 to the alpha blend unit 445. The alpha blend unit 445 blends the subpicture Y value 510 with the Y value from the video frame 410 based on the input alpha value, and outputs a blended Y value which is written to a Y surface 432 of a new (blended) frame 430 in planar YUV 4:2:0 format. This process is repeated for each of the Y values in the Y surface 412 of the video frame 410. In this manner, in the first pass 435, each of the Y values of the video frame 410 are blended and then written to a new Y surface 432 of a blended or new frame 430. The process for the first pass (to process the Y values) is illustrated in detail in Fig. 4.
>
> In a second pass 450, each of the Cr values from a Cr surface 414 of video frame 410 is similarly alpha-blended and then written to a new Cr surface 434 of a new (blended) video frame (or picture) 430. The same subpicture data array 420 that was used for the Y blending process is also used for blending Cr values. During the second pass 450, the subpicture palette 157 outputs an 8-bit Cr palette value 515 (Fig. 5) corresponding to the 4-bit index.
>
> In a third pass 455, each of the Cb values from a Cb surface 416 of video frame 410 is similarly alpha-blended and then written to a new Cb surface 436 of

a new (blended) video frame (or picture) 430. The same subpicture data array 420 that was used for the Y blending process (first pass 435) and the Cr blending process (second pass 450) is also used for blending Cb values here in the third pass. Thus, during the third pass 455, the subpicture palette 157 outputs 8-bit Cb palette values 520 (Fig. 5) corresponding to the 4-bit indices.

The pixel data (YCrCb values) of the video frame 410 is provided in a 4:2:0 planar format, and is blended in 4:2:0 format using a multi-pass technique described above, and then stored in a 4:2:0 planar format as a new (blended) frame 430."

No where does Herrara teach or suggests performing blending sing multiple passes in a 4:2:0 format, as claimed in independent claims 1, 14, 17, 21, 22 and 23 and the claims which depend therefrom.

CONCLUSION

In view of the foregoing, it is respectfully asserted that all of the claims pending in this patent application are in condition for allowance.

Should it be determined that an additional fee is due under 37 CFR §§1.16 or 1.17, or any excess fee has been received, please charge that fee or credit the amount of overcharge to deposit account #02-2666.

If the Examiner has any questions, he is invited to contact the undersigned at (310) 252-7605. Reconsideration of this patent application and early allowance of all the claims is respectfully requested.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN LLP

Dated: November 21, 2003

By _____
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to: Mail Stop Petition, Commissioner for Patents, Post Office Box 1450, Alexandria, Virginia 22313-1450 on November 21, 2003.

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Margaux Rodriguez *November 21, 2003*